Moderating Role of Husband's Education and their Employment on Female Labor Force Participation in Pakistan

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Abstract

Pakistan's economy has declined in recent years, affecting people's living and employment prospects, and has affected females more compared to males. It has been determined that to contribute to the family income, women, in particular, must work longer hours to maintain themselves and their families above the poverty line. Women in many underdeveloped nations fall behind males in many ways due to social and cultural conventions. This paper has examined the moderating role of husbands' education and employment on female labor force participation (FLFP) using the Pakistan Demographic and Health Survey 2017-18. The findings indicate that FLFP rises in tandem with a woman's age. The odds ratio indicates that educated women who are the head of the family and own land/house (compared to otherwise), have at least five children are more (compared to <5 children), and from Punjab (compare to ICT) are more likely to participate in the labor force. On the other hand, women from the wealthier/richer quintiles (compared to the poorest quintile), married to educated and employed spouses (compared to otherwise) are less likely to engage in the labor force. Our findings further show a positive moderating role of husband's and women's education on FLFP and a negative moderating role of husband's employment and women's education on FLFP. In conclusion, our findings suggest that the husband's education and his employment are essential to enhance FLFP.

Keyword: Husband's education, husband's employment, female labor force participation

Introduction

Labor force participation (LFP) refers to participating in productive activities to earn money and fulfill specific societal criteria. In Pakistan, the labor force comprises all those aged fifteen and above who are "working or seeking for employment for cash or [in] kind one week previous to the enumeration date" (Ejaz, 2007). Thus, LFP studies support the formulation of employment and human resource development strategies. However, because of the limited proportion of women in the workforce, Pakistan has a low LFP rate, which is a significant source of worry for the country's growth prospects.

Female labor force participation (FLFP) contributes substantially to socioeconomic development as it provides families with a second source of income and helps in household poverty alleviation. Given that

women make up about half of Pakistan's population, it's critical to examine their involvement in the labor market and economic growth. Many researchers have focused on this topic in recent years, highlighting the substantial beneficial relationship between FLFP and economic development (Ejaz, 2007; Faridi et al., 2009; Faridi et al., 2011). The FLFP rate in the United States is 67.8%, 75.5% in Canada, 73.8% in Australia, 60% in Korea, 72.7% in Japan, 38.5% in Bangladesh, 37.5% in Sri Lanka, 85.3% in Nepal, and 22.6% in Pakistan (World Bank, 2020).

In Pakistan, LFP has risen from 50.4% in 1999/2000 to 52.7% in 2020 (Economic Survey of Pakistan, 2020), whereas the employment-to-population ratio has risen from 46.8% in 1999/2000 to 57.3% in 2019-20 (Economic Survey of Pakistan, 2020; World Bank, 2020). However, like many developing countries, Pakistan has societal and cultural conventions that frequently place women at a disadvantage position. Women work longer hours than males, yet most of their labor is caregiving and home management. Women's access to the labor market is influenced by gender discrimination, social and cultural values, job location, and family obligations. Women are sometimes pushed into the labor market by financial pressures such as poverty or caring for a big family (Kazi & Raza, 1991), but other elements such as education, training, and experience help to draw women into the workforce (Killingsworth & Heckman, 1986; Mincer & Polachek, 1974). A study from Sudan has shown that FLFP was favorably linked to education and own earnings and adversely related to the spouse's salary, asset ownership, and the presence of young children (Maglad, 1998). Other factors that may influence FLFP include family structure (whether joint or nuclear), the education level of spouse or parents, job availability, and workplace location (Faridi et al., 2011). A Bangladeshi study has negatively correlated FLFP with wealth, purdah (female seclusion), and the patriarchal system, and favorably related to the married status, education, and age (Amin, 1994). Similarly, other studies have also shown that education, health, experience, family history, and marital status were significant variables in women's self-employment (Georgellis and Wall, 2005; Le, 2000; Asif et al., 2017; Qaiser et al., 2021). Women's participation in the labor market also depends on their reproductive roles and responsibilities.

The current paper has evaluated the moderating role of a husband's education and employment on FLFP in Pakistan using the Pakistan Demographic and Health Survey (PDHS) 2017-18 dataset.

Literature Review
Several authors have addressed the economic theory of household, which is essential in this context, and studies that have looked at FLFP problems nationally and internationally. For example, Becker (1965) and Gronau (1977), pioneers in this area, described family behavior in terms of time allocation as follows: a rise in the market pay rate decreased the amount of work done at home and had an intermediate impact on the amount of time spent on leisure and market output.

Mincer (1962) looked at the variables that affect women's labor market choices in the context of the FLFP-work hour's connection across time. He concluded that women's choice to work was adversely linked to spouse earnings but favorably related to their wages. The number of children was likewise associated with FLFP choices in a favorable way. Furthermore, educational engagement was an essential part of people's productive lives.

Bover and Arellano (1995) looked at the factors contributing to the rise of FLFP in Spain throughout the 1980s. They found that the economic cycle had a substantial impact on participation. Furthermore, greater levels of education and lower birth rates were associated with an increase in FLFP. Women's earning potential enhanced as a result of these structural variables. FLFP rises when younger cohorts replace older ones if the prime age does not change in the future.

Azid et al. (2001) investigated the variables influencing FLFP in Pakistani cottage businesses. They discovered that FLFP had a positive connection with the number of children in a family, women's age, education, and wealth status, but a negative link with the number of under-five children, based on data gathered via a field survey in Multan. In addition, because the studied women's cottage industry-level needlework employment differed from other activity areas, the purdah coefficient was statistically negligible.

Naqvi and Shahnaz (2002) found that women's economic involvement was adversely correlated with the number of children in a home and the presence of a female household head. Although FLFP was positively influenced by women's age and education level, married women were less likely to join. Younger women, poorly educated women, household heads, and women from smaller, financially stronger urban families were more likely to be forced to participate in the labor market. In contrast, older women, better-educated women, women who were household heads, financially stronger urban families were more likely to choose to participate.

Sackey (2005) discovered that both elementary and post-primary education had a favorable effect on FLFP and negatively impacted fertility in research on Ghana. In addition, the gender gap in education has decreased over time, and government measures are needed to guarantee female education gains are maintained. As a result, education has a significant role in determining female human capital and productive employment.

Ahmad and Hafeez (2007) found that women with a greater degree of education were more likely to work for cash and earn more per hour. FLFP was positively linked with women living in joint households, women with fewer assets, and women whose husbands make low salaries. Women whose husbands or parents were less educated were less likely to engage in the labor market. Education, experience, training, the type of the profession, and distance from the centre city were all factors that impacted women's wages.

Ejaz (2007) examined the factors of rural and urban FLFP in Pakistan and found that FLFP is enhanced by age, educational attainment, marital status, living in a nuclear family, having fewer children, access to a vehicle, and childcare facilities. On the other hand, FLFP was adversely correlated with a higher number of children and the availability of household appliances.

Faridi et al. and Sharif et al. (2009) found that the socioeconomic and demographic determinants such as secondary and higher education, marital status, family structure, the presence of an educated spouse, and the numbers of children were all positively related to women's participation in the workforce. Whereas younger women (aged 15–24), women with household assets, women whose spouses were economically engaged, and women with children under six were less likely to work.

Chaudhry et al. (2010) studied the effects of health and education on women's wages in Vehari, Pakistan. Higher levels of education and improved health and nutrition were favorably associated with women's wages. However, having a diploma or vocational training was linked to lower wages. Women in formal employment earned less than those in informal employment because they had lower-paying occupations. Widows and single women living in remote areas earned less since they may not be allowed to work outside their homes or have fewer economic obligations.

Bibi and Afzal (2012) looked into the factors influencing married women's labor force participation in Wah Cantt, Pakistan. Their research found that married women's LFP was positively related to their level of education, the number of children, family size, husband's income, monthly expenditures, the spouse and family's favorable attitude toward women working, and job satisfaction. On the other hand, it was

negatively correlated with women's age, living with a husband, degree of satisfaction with their position as a homemaker, family-imposed work limitations, and the presence of additional household earners. In addition, the rate of inflation had a significant impact on the FLFP of married women.

Babalola and Akor (2013) investigated the variables that influence married women's work participation decisions in Adamawa state, Nigeria. The research discovered that women's education levels were favorably linked to their FLFP, while the spouse's job position and household size had a negative impact. This meant that government programs should focus on female education, which aided female human capital and productive employment growth.

Previous studies indicated that various variables significantly impact women's choice to join the labor market. This study examines the moderating effect of husbands' education and employment on FLFP. It identifies the issues and causes that contribute to the low FLFP and makes suggestions for raising women's living standards and using their resources for national development. This is a significant contribution to the field of economics.

Methodology

PDHS offers information on a representative sample of the population's health, demographic, and socioeconomic characteristics and collects information from ever-married women of reproductive age (MWRA) between 15 and 49. In this research, PDHS 2017-18 dataset was utilized.

The functional form of the model used to investigate the moderating effect of husbands' education, and employment on FLFP was:
FLFP = f(WAGE, WEDU, WSH, HEDU, HEMP, NLC, HH, PR, RR, OLH, WEDU*HEDU, WEDU*HEMP) . . . . .(1)

The outcome variable of the study was FLFP. The variable women's age (WAGE) was divided into seven groups: 15-19, 20-24, 25-29, and so on. The education of a woman and her husband (WEDU and HEDU) was divided into two categories: less than secondary education and at least secondary education. The husband's occupation (HEMP) was classified as not working, professional, services/sales, agricultural, skilled, or unskilled. The profession of spouse was merged into two categories i.e employed and unemployed to prevent a tiny cell count. The regions of residency (RR) were classified as Punjab, Sindh, Khyber Pakhtunkhwa (KPK), Baluchistan, Azad Jammu, and Kashmir (AJK), Gilgit Baltistan (GB), FATA, and Islamabad Capital Territory (ICT). The wealth index (WSH) was constructed with the help of principal component analysis by combining asset ownership, such as land and livestock, with a variety of socioeconomic factors, such as household construction, utilities, drinking water sources, and sanitation facilities, into five wealth quintiles: poorest, poorer, middle, richer, and richest. Women belong to poorest, poorer and middle quintiles considered as poorest and if women belong to richer and richest quintiles considered as richest. The number of children who are still alive (NLC) was a continuous variable. To prevent a low cell count, the number of live children was divided into two groups: women with less than five children and women with at least five children. The gender of household headship (HH) was split into two groups: male and female heads of households. Women's ownership of land or home (OLH) was divided into four categories. Women do not possess property or houses; instead, they own land or houses alone, jointly, and individually and jointly with their husbands. Ownership of land or house was merged into two categories i.e women did not own land or house and women own land or house (own land or houses alone, jointly, and individually and jointly with someone).

Frequency and percentage are given for categorical variables. For inferential analysis, Multivariable logistic regression models were used to produce covariate-adjusted prevalence rates. At this level, different categories were merged to avoid a small cell count problem. To select the final variables, we

included all candidate variables (socio-economic, moderating role of husband's education, and their employment) in the model. Where the dependent variable was dichotomous i.e. women's currently employed and women's currently unemployed. We investigated the interaction effect using bootstrap-based Hayes' PROCESS macro (Hayes, 2012). It is a well-established statistical method of resampling that estimates the parameters of the model and their standard errors strictly from the sample (Zafar et al., 2021). SPSS v.20 was used for the analyses.

Results and discussion
Table 1 presents the socioeconomic and demographic features of the 48,497 MWRA. The majority (23.6%) of women were aged between 35 and 39, with more than half of the women being 35 or older (57.9%). Two-thirds of all women (74.2%) had less than secondary education, while two-thirds of all spouses (67%) had secondary education. Almost two-thirds of women (66.3%) live in the poorest households, and 96.3% did not own land or a house. The majority of the women (85.9%) were unemployed, whereas 94.2% of the husbands were working. Most men (90.7%) were the head of the household, and almost half of the families had less than five children (50.2%). More than 50% of the total women (54.4%) live in rural areas. 21.1% of women live in Punjab, 17.9% in Sindh, 16.4% in KPK, 12.8% in Baluchistan, 7.6% in FATA, 10.5% in AJK, 7.5% in GB, and 6.3% in ICT.

Table 1: Socio-economic and demographic characteristics of the women

Characteristics of women		Frequency	Percentage (%)
Women's age	15-19	390	0.8
	20-24	2,932	6.0
	25-29	7,331	15.1
	30-34	9,739	20.1
	35-39	11,468	23.6
	40-44	8,692	17.9
	45-49	7,945	16.4
Women's education	Less than secondary	35,961	74.2
	At least secondary	12,536	25.8
Ownership of land/household	No ownership	46,689	96.3
	Ownership	1,808	3.7
Household wealth status	Poorest	32,131	66.3
	Richest	16,366	33.7
Gender of household headship	Female	4,505	9.3
	Male	43,992	90.7
Number of living children	Less than five	24,350	50.2
	At least five	24,147	49.8
Husband's education	Less than secondary	16,000	33.0
	At least secondary	32,497	67.0
Husband's employment status	Currently unemployed	2,837	5.8
	Currently employed	45,660	94.2
Place of residence	Rural	26,400	54.4
	Urban	22,097	45.6
Region of residence	Punjab	10,227	21.1
	Sindh	8,659	17.9
	KPK	7,969	16.4
	Baluchistan	6,188	12.8
	GB	3,628	7.5

	AJK	5,092	10.5
	FATA	3,685	7.6
	ICT	3,049	6.3
Women's employment status	Currently unemployed	41,645	85.9
	Currently employed	6,852	14.1

Table 2 presents the results from binary logistic regression on the impact of women's age, education, household wealth status, land/house ownership, gender of household head, husband's education, husband's job status, location of living, and region of residency on FLFP. Except for the place and region of living, all variables were significantly associated with FLFP.

Table 2: Results of Multivariable logistic regression

Characteristics of women		Results of Binary Logistics Regression		
		β	Sig.	Exp (β)
Women's age	15-19	Reference		
	20-24	.168	.434	1.183
	25-29	.533	.010	1.704
	30-34	.757	.000	2.131
	35-39	1.145	.000	3.141
	40-44	.933	.000	2.541
	45-49	.931	.000	2.527
Women's education	Less than secondary	Reference		
	At least secondary	.351	.000	1.421
Ownership of land/household	No ownership	Reference		
	Ownership	.337	.000	1.400
Household wealth status	Poorest	Reference		
	Richest	-.626	.000	.535
Gender of household headship	Male	Reference		
	Female	.193	.000	1.212
Number of living children	Less than five	Reference		
	At least five	.199	.000	1.220
Husband's education	Less than secondary	Reference		
	At least secondary	-.323	.000	.724
Husband's employment status	Currently unemployed	Reference		
	Currently employed	-.336	.000	.715
Place of residence	Rural	Reference		
	Urban	.041	.179	1.042
Region of residence	ICT	Reference		
	Punjab	.104	.058	1.110
	Sindh	.021	.711	1.021
	KPK	-1.173	.000	.310
	Baluchistan	-.845	.000	.429
	GB	-1.496	.000	.224
	AJK	-.747	.000	.474
	FATA	-2.682	.000	.068
Constant		-1.683	.000	.186

Table 3 presents the moderation/interaction findings. A positive and significant interaction effect of women's education and husband's education was found on FLFP (β= 0.132, p 0.05). On the other hand, a positive interaction effect of women's education and husband's job was also found on FLFP (β= -0.136, p 0.05).

Table 3: Results of moderation/ interaction

Variables	β	Sig.
Constant	1.083	.000
Women's education	.0576	.043
Husband's education	-.3568	.000
Women's education * Husband's education	.0132	.000
Husband's employment	-.1778	.004
Women's education's * Husband's employment	-.1361	.014

The analysis of moderation allows us to investigate the impact of the husband's education and husband's employment on women's education and the FLFP relationship. The spouse's education has a favorable moderating impact on the relationship between women's education and FLFP. We plotted the interaction effects to clearly show the moderating effects of high and low husband's education. When the spouses are more educated than when they are less educated, the relationship between women's education and FLFP is considerably more explicit and favorable. The moderations of husband's education show that the relationship between women's education and FLFP is more stronger and positive for those women who possess better education and also married to individuals with higher education as compared to the women married to a less educated person, as illustrated in **Figure 1**. On the other side, Furthermore, the moderation of husband's employment shows that the relationship between women's education and FLFP is stronger and positive for those women who possess better education and also married to the working persons as compared to the women married to unemployed persons, as seen in **Figure 2**.

Table 3 shows that couples' education has a supportive and substantial effect on women's choice to work in the labor market. Females may collaborate with their husbands to share the financial load of the family. Many individuals have inadequate incomes and find it difficult to pay all of their family's expenditures independently, which increases the likelihood of females doing market labor. Education of the home head has a detrimental effect on the likelihood of females seeking market employment. The findings indicate that the family leader (husband) earns well from his work, which reduces female labor force involvement.

The findings indicate that as women's age raises their involvement in the work market rises. Women in the age group (15–19) are less likely to work than women in the age groups (20–24). This is because young married women (aged 15 to 35) are entirely reliant on their husbands. In most instances, they are occupied.

Fig. 1: Graphical Representation of Moderation Analysis
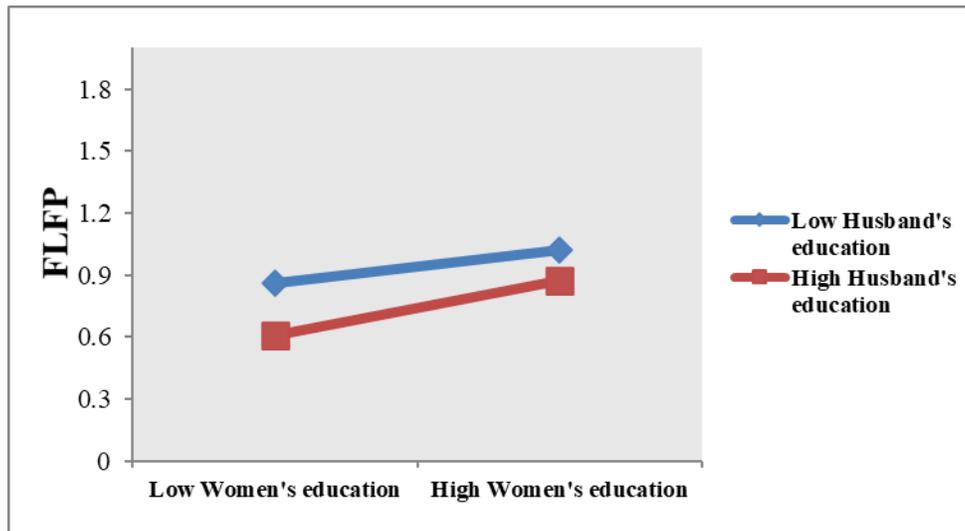
Fig. 2: Graphical Representation of Moderation Analysis
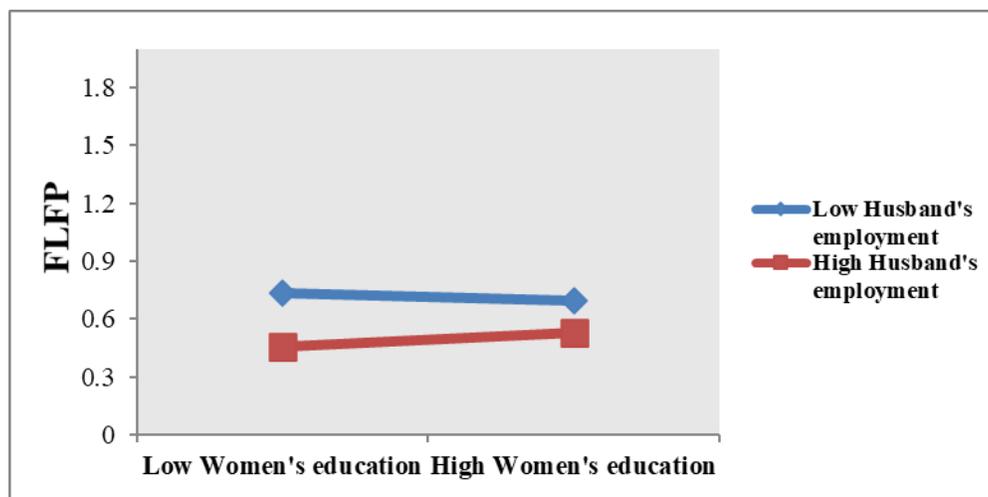
with childbirth, child care, and other household duties. This may be explained by societal restrictions, a lack of experience, skills, and training, and the fact that many younger women are still in school, but the connection is minor. Women labor force involvement rises at the age group of (35-39) because women may have school-aged or college-aged children, which allows them more time to work more time outside the home. FLFP declines after the age range of 35-39 since older women are more likely to be in poor health and therefore less productive. Our findings on the female workforce and age are comparable to those of Naqvi and Shahnaz (2002), Hafeez and Ahmad (2002), and Faridi and Rashid (2014).

Women's educational attainment is a significant factor in their choice to join the job market. Our findings indicate a positive and substantial connection between FLFP and greater levels of education: the higher the degree of education, the higher the probability of FLFP. Women with higher levels of education have more work options outside the house and are better able to earn money. Becker's (1965) theory of household production and time allocation is reflected in these findings. Higher education raises the

opportunity cost of creating nonmarket output and the likelihood of engaging in income-generating activities outside the house. Similar results are presented by Ahmad and Hafeez (2007) and Kozel and Alderman (1990). Women from wealthier/richer families are less likely to engage in the labor force than women from poorer households because increased family income reduces females' opportunities to work in the market. If their financial situation is excellent, women choose not to work (Batool, 2019; Asif and Pervaiz, 2019).

Women who own a house or a piece of land are more likely to work than women who do not own a house or a piece of land. To put it another way, asset ownership (house and land) has a positive and considerable impact on FLFP. Women are more inclined to seek work when they own assets, which improves family wealth and financial stability. Similar results were shown by Ahmad and Hafeez (2007) and Faridi, Sharif et al. (2009). The gender of the home head has a significant impact on female labor force participation. Women are more likely to engage in the labor force in those families with female heads than male heads. Women are more empowered to make job choices due to these factors (Asif et al., 2021; Riaz and Pervaiz, 2018). Women with at least five children are more likely to engage in the workforce than women with less than five children. Women who live in families with many dependents are more likely to experience economic strain, forcing them to work. Similar findings are presented by Ahmad and Hafeez (2007).

The odds ratio indicates that those women whose husbands are less educated participated more in the labor force. This is likely because family income increases in lockstep with the father's degree of education, resulting in a drop in the participation rate of educated women. Fathers in rural areas, in particular, may be hesitant to allow their daughters to work. Women's labor force involvement rises in tandem with their husbands' educational attainment, perhaps due to fewer societal restrictions and women's desire to create a better life for their children. These studies support the results of our findings Faridi, Malik, and Basit (2009). The odds ratio indicates that those women whose husbands are unemployed participated more in the labor force. The job status of the spouse and other homeworkers has a negative and substantial coefficient. An increase in the husband's income will almost certainly decrease the necessity for his wife to work. The presence of additional home members who work has a comparable impact. Similar findings are presented by Ahmad and Hafeez (2007).

Women who live in urban regions are more likely to engage in the labor force than women who do not live in metropolitan areas. Our findings reveal that provinces have a far-reaching influence on women's labor market participation decisions. Women from the Punjab area are more likely to work than women from the ICT region. Women from all other regions are less likely to participate in the labor force than ICT women. The findings show that females in Punjab and Sindh contribute more to the labor market than ICT females. The coefficients for Sindh and Baluchistan are negative, indicating that females in these regions have a lower chance of finding employment than ICT females (Basit, 2009).

Conclusion

Pakistan was an undeveloped and impoverished nation with sluggish economic development until the service sector expanded in the 1990s. The GDP growth rate improved, resulted from an increased female labor market involvement, which made it possible to conclude that more female labor force participation leads to increased economic development within nations. According to the research, the FLFP is boosted by women's age, education, land/house ownership, and female being head of the home. In contrast, the FLFP is reduced by the husband's education, job, family economic status, and the presence of at least five children. However, we found a positive and substantial relationship between women's and husband's education on FLFP. On the other hand, we found a favorable relationship between women's education and husband's job on FLFP.

In Pakistan, secondary education is the minimal requirement for female labor market participation, which infers that a basic level of education is insufficient to join the job market; female labor market involvement rises with increasing higher education levels. According to the findings, women are more likely to engage in rural market activities. Therefore, higher education should be administered with improved quality of education, and chances for female training be made available, particularly in rural areas. The government should take initiatives for rural development to increase women's job possibilities.

Women's employment in exchange for a paid job raises their opportunity cost of carrying and raising a child. Their responsibilities of carrying and raising a child may limit their time available for paid employment, forcing them to forgo income. Consequently, employed women are anticipated to be more worried about their family size. As a result, an increased probability of family planning to reduce the number of children is projected. To do this, a comprehensive media effort must be undertaken to raise public knowledge about the availability and use of family planning techniques.

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